IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In re Application of: | Roland Albert et al. |
| Serial No.: | 10/616,018 |
| Date Filed: | July 9, 2003 |
| Group Art Unit: | 3682 |
| Examiner: | Kim, Chong HWA |
| Title: | **PLASTIC CONTROL PLATE OF A HYDRAULIC GEARBOX CONTROL DEVICE IN A MOTOR VEHICLE** |

**MAIL STOP – APPEAL BRIEF - PATENTS**
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## APPEAL BRIEF

Further to the notice of appeal submitted on August 31, 2006 and the Notice of Panel Decision from Pre-Appeal Brief Review mailed September 14, 2006, Applicants hereby submit this appeal brief according to §41.37.

## APPELLANT'S BRIEF (37 C.F.R. § 41.37)

This brief is submitted in support of appellants' notice of appeal from the decision dated June 1, 2006 of the Examiner finally rejecting claims 1-5, 7-12, 14-16, and 18-22 of the subject application.

## I. REAL PARTY IN INTEREST

The real party in interest is:

Siemens AG
Wittelsbacherplatz 2
80333 München
GERMANY

by virtue of an assignment by the inventors as duly recorded in the Assignment Branch of the U.S. Patent and Trademark Office.

## II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

## III. STATUS OF CLAIMS

The application as originally filed contained a total of 22 claims, wherein claims 1, 7 and 15 were independent. The status of the claims are as follows:

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|---|---|
| Claims Pending: | 1-5, 7-12, 14-16, and 18-22 |
| Claims Rejected: | 1-5, 7-12, 14-16, and 18-22 |
| Claims Allowed: | none |
| Claims Cancelled: | 6, 13 and 17 |
| Claims Amended: | 1-3, 7-12, 15-16, 18 and 19 |
| Claims Withdrawn: | none |
| Claims Objected: | none |

Appellants appeal the rejection of claims 1-5, 7-12, 14-16, and 18-22 of the present application. These claims are reproduced in Appendix A.

## IV. STATUS OF AMENDMENTS

Applicants amended Claims 1-3, 7-11, 15, 16 and 18 and canceled Claim 17 in a Response to Office Action filed with the U.S. Patent and Trademark Office (USPTO) on October 21, 2004. Claims 1-3, and 7 were further amended and Claim 6 cancelled in response a Response to Final Office Action filed on March 3, 2005.

Upon receipt of an Advisory Action dated March 15, 2005, Applicants filed a Request for Continued Examination (RCE) on April 7, 2005. In response to an Office Action dated June 27, 2005, Applicants filed a Response amending Claims 1, 3, 7, 11 and 15, and canceling Claim 13 on September 20, 2005. No further claim amendments submitted.

## V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 is directed to a plastic control plate (*see* Spec, Figure 1, plastic control plate 1) for a hydraulic gearbox control device in a motor vehicle. "The hydraulic motor-vehicle gearbox control device is attached, for example, in the lower section of the gearbox housing, such that it lies within the oil sump." (*see* Spec, 6:9-11). The plastic control plate comprises:

- a single piece body (*see* Spec, Figures 1, 3 and 5, plastic control plate 1) having an opening with a bottom wall having at least a partially flat area;
- at least one channel (*see* Spec, Figure 1, rectangular channels 2a, 2b and 2c)(*see* Spec, Figure 3, channel 2')(*see* Spec, Figure 5, channels 2d, 2e and 2f) running through the plastic control plate for carrying a cooling medium, and
- a heat conduction metal body plate (*see* Spec, Figures 1-5, heat conduction body 3) having a top surface and a bottom surface, said plate at least partially integrated in the plastic control plate arranged directly adjacent to the channel (*see* Spec, 6:17-

18, 6:23-25, 9:2-5), wherein said heat conduction metal body plate top surface is flush with a top surface of the plastic plate (*see* Spec, 6:24-25, 8:18-19) and wherein said bottom surface rests at least partially on said bottom wall of said opening (*see* Spec, Figures 1, 3 and 5) and wherein said at least one channel is formed by said heat conduction metal body plate and said integral body (*see* Spec, Figures 1, 3 and 5).

Independent claim 7 is directed to a plastic control plate (*see* Spec, Figure 1, plastic control plate 1) and a gearbox control electronics (*see* Spec, Figures 1-5, circuit boards 4 and 5) system. "The hydraulic motor-vehicle gearbox control device is attached, for example, in the lower section of the gearbox housing, such that it lies within the oil sump." (*see* Spec, 6:9-11). The system comprises:

- a single piece plastic control plate (*see* Spec, Figures 1, 3 and 5, plastic control plate 1) comprising a plurality of separate channels (*see* Spec, Figure 1, rectangular channels 2a, 2b and 2c)(*see* Spe c, Figure 3, channel 2')(*see* Spec, Figure 5, channels 2d, 2e and 2f) running through the plastic control plate for carrying a cooling medium, wherein each channel is bounded on at least one side by the plastic control plate,
- a metal heat conduction body (*see* Spec, Figures 1-5, heat conduction body 3) at least partially integrated in the plastic control plate (*see* Spec, 6:17-18, 6:23-25, 9:2-5) and arranged directly adjacent to a portion of the at least one channel wherein the each channel is bounded on at least one side by the metal heat conduction body, and
- a substrate carrying electronic components (*see* Spec, Figures 1-5, circuit boards 4 and 5) of the gearbox control electronics system arranged directly on the upper surface of the heat conduction body.

Independent claim 15 is directed to a gearbox control system (*see* Spec, Figures 1-5). "The hydraulic motor-vehicle gearbox control device is attached, for example, in the lower

section of the gearbox housing, such that it lies within the oil sump." (*see* Spec, 6:9-11). The system comprises:

- a single piece plastic control plate (*see* Spec, Figures 1, 3 and 5, plastic control plate 1) having an opening with a bottom wall having at least a partially flat area,
- at least one channel (*see* Spec, Figure 1, rectangular channels 2a, 2b and 2c)(*see* Spec, Figure 3, channel 2')(*see* Spec, Figure 5, channels 2d, 2e and 2f) running through the plastic control plate for carrying a cooling medium,
- a heat conduction body (*see* Spec, Figures 1-5, heat conduction body 3) at least partially integrated in the plastic control plate (*see* Spec, 6:17-18, 6:23-25, 9:2-5) and having a bottom surface and arranged directly adjacent to the at least one channel, wherein said bottom surface rests at least partially on said bottom wall of said opening and wherein said at least one channel is formed by said heat conduction metal body plate and said integral plastic control plate, and
- a gearbox control circuit (*see* Spec, Figures 1-5, circuit boards 4 and 5) arranged on a substrate arranged directly on an upper surface of the heat conduction body, wherein the gearbox control circuit is electrically contacted via a stamped-grid arrangement (*see* Spec, 7:11), partially extending over the upper surface of the plastic control plate and partially over the upper surface of the heat conduction body.

## VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

**Ground #1:** Claims 1-5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chia, U.S. Patent 4,868,349 and in view of Lindberg et al., U.S. 5,504,378.

**Ground #2:** Claims 1-5, 7-12, 14-16, and 18-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Loibl et al., U.S. Patent 6,160,708 in view of Chia, U.S. Patent 4,868,349 and in view of Lindberg et al., U.S. 5,504,378.

**Ground #3:** Claims 1-5, 7-12, 14-16, and 18-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mertol, U.S. Patent 5,940,271 in view of Lindberg et al., U.S.

5,504,378 in view of Chia, U.S. Patent 4,868,349 in view of Baumel et al., U.S. Patent 5,966,291 and in view of Loibl et al., U.S. Patent 6,160,708.

## VII. ARGUMENT

**Response to Ground #1**

Claims 1-5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chia, U.S. Patent 4,868,349 and in view of Lindberg et al., U.S. 5,504,378. Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

A premise of the rejection is that Chia is analogous prior art. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention was concerned." M.P.E.P. § 2141.01(a) (*quoting In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992)). First, the endeavor of the present invention is that of "a plastic control plate of a hydraulic gearbox control device in a motor vehicle." *See* Spec 2:9-10. Chia is not within the field of applicant's endeavor because it discloses a plastic molded pin-grid-array power package.

> The basic pin-grid-array concept involves a flat semiconductor housing with a large number of package pins extending from one face thereof in an array having standard spacing. Typically, several concentric rings of pins are involved with a total pin count ranging from 28 to 172 pins.

(Chia, 1:9-14). Thus, the information disclosed in Chia is not within the field of hydraulic gearbox control device in a motor vehicle. Second, the particular problem with which the invention is concerned is adequate heat dissipation of the heat produced in the control electronics system of a gearbox control device. *See* Spec 3:1-2. Chia merely teaches,

> The heat sink covers an aperture in the board and the semiconductor die is secured to the heat sink inside the cavity thereby formed. After the semiconductor die is attached and the bonding pads connected to the metal traces on the board, the assembly is placed in a transfer mold. Plastic encapsulant is then transfer molded

> to encapsulate the semiconductor die and to extend flush with the heat sink to form a skirt around the periphery of the board. *This leaves the molded package with an available heat sink face for efficient cooling after the package is mounted for ultimate use.*

(Chia, abstract) (emphasis added). Chia does not disclose or suggest liquid cooling as such is not typically used with pin-grid-arrays. Therefore, a person skilled in the art would not consider Chia for an arrangement using liquid cooling for a control electronics system of a gearbox control device.

Even if a person skilled in the art would consider Chia, which Applicants do not concede, a combination of Chia with any prior art would not lead to the subject matter as claimed in independent claim 1. According to independent claim 1, the control plate is made of *plastic* and the heat conduction body plate is made of *metal* such that the plastic control plate has "at least one channel running through the *plastic* control plate for carrying a cooling medium" wherein the "*at least one channel is formed by said heat conduction metal body plate and said integral body.*"

As noted in the rejection, Lindberg et al. arguably "shows, in Figs. 1-11, a control plate comprising at least one channel having an opening (formed by 132, 146, and 134)." (OA of 06/01/2006, pg. 3). However, Lindberg et al. does not teach or suggest that the control plate is made of plastic. Rather, Lindberg et al. teaches that "each heat sink includes an upper planar member 132 and a lower planar member 134 that are joined together by brazing" (Lindberg et al., 5:56-58) so as to suggest that both the upper planar member 132 and the lower planar member 134 are made of metal.

Notwithstanding, conclusion of the rejection is that "[i]t would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the heat transfer method of Chia with the heat sink device as taught by Lindberg et al. in order to increase the heat transfer so that the over heating can be reduced thus increasing the life of the device." (OA of 06/01/2006, pg. 3). While it is not understood from the rejection, two possible modifications present themselves.

Regarding the first modification, to modify the Chia device to arrive at the invention, a there must be some area between the metal body plate 19 and the integral body 31 which would allow for a channel. However, the arrangement of Chia does not allow for any channels being formed between the metal plate and the body because this area is occupied by the electronic device 20. If cooling fluid were to flow between the metal body plate 19 and the integral body 31, then the IC chip 20 and the wires 21 would be in direct contact with the fluid so as to corrode the components. Further, if cooling fluid were to flow between the metal body plate 19 and the integral body 31, then the metal body plate 19 and the IC chip 20 would no longer be in direct contact so that the function of transferring heat from the IC chip 20 to the metal body plate 19 would be completely frustrated.

Regarding the second modification, it appears a premise of the rejection is that the Chia device illustrated in Figure 5 could be modified by flipping it up-side-down and then attaching the metal body plate 19 of Chia to the upper planar member 132 of Lindberg et al. as shown below.

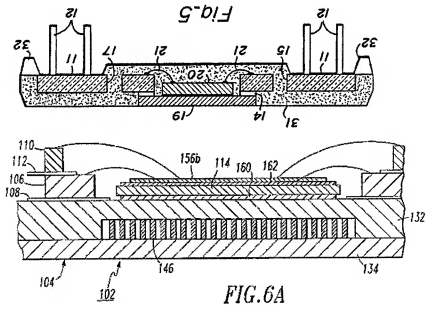


FIG.6A

However, this combination fails to provide the invention as claimed in claim 1. In particular, as noted above, the lower planar member 134 of Lindberg et al. is made of metal, not plastic as required by the claim. Further, the lower planar member 134 of Lindberg et al. is not "a single piece body having an opening with a bottom wall having at least a partially flat area." The lower planar member 134 of Lindberg et al. is a flat piece of metal that does not have an opening as required by claim 1. Further, because the lower planar member 134 of Lindberg et al. does not have an opening, it is impossible for the Lindberg and Chia combination to be a structure wherein the "heat conduction metal body plate top surface is flush with a top surface of the plastic plate and wherein said bottom surface rests at least partially on said bottom wall of said opening" as required by claim 1. Further, it should be noted that Chia teaches the wrong side of metal body plate 19 is flush with the plastic, because Chia teaches to embed the IC chip 20 in the plastic, whereas the invention as claimed in claim 1 does not embed the electrical components.

Thus, the rejection fails to establish a *prima facie* case of obviousness because the first possible modification of the Chia device would render the Chia device unsatisfactory for its intended purpose. Further, a *prima facie* case of obviousness is not established because the second possible modification fails to teach or suggest all of the claim limitations.

**Response to Ground #2**

Claims 1-5, 7-12, 14-16, and 18-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Loibl et al., U.S. Patent 6,160,708 in view of Chia, U.S. Patent 4,868,349 and in view of Lindberg et al., U.S. 5,504,378. Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

The Examiner stated that Loibl represents related prior art. Applicants respectfully disagree. Loibl discloses merely a carrier plate. Again, similar as Chia the use of liquid cooling is neither mentioned nor suggested. Therefore, a person skilled in the art would not consider Loibl for an arrangement using liquid cooling.

Further, this rejection fails to establish a *prima facie* case of obviousness because the proposed modification of the Loibl et al device would render the Loibl et al device unsatisfactory for its intended purpose and the modified Loibl et al device fails to teach or suggest all of the claim limitations. Regarding the modification, it appears a premise of the rejection is that the Loibl et al device illustrated in Figure 2 could be modified by attaching the base plate 10 of Loibl et al to the upper planar member 132 of Lindberg et al. as shown below.

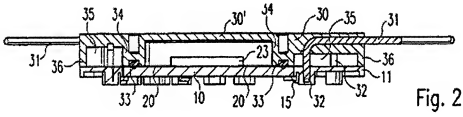


Fig. 2

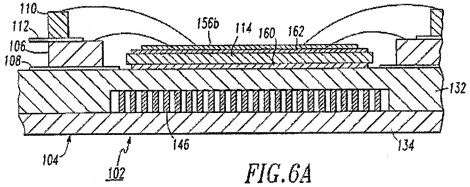


FIG. 6A

However, this combination fails to provide the invention as claimed in the independent claims. In particular, as noted above, the lower planar member 134 of Lindberg et al. is made of metal, not plastic as required by the claim. Further, the lower planar member 134 of Lindberg et al. is not "a single piece body having an opening with a bottom wall having at least a partially flat area." The lower planar member 134 of Lindberg et al. is a flat piece of metal that does not have an opening as required by the independent claims. Further, because the lower planar member 134 of Lindberg et al. does not have an opening, it is impossible for the Loibl et al device to be modified wherein the "heat conduction metal body plate top surface is flush with a top surface of

the plastic plate and wherein said bottom surface rests at least partially on said bottom wall of said opening" as required by the independent claims.

The independent claims further include the limitation that "*at least one channel is formed by said heat conduction metal body plate and said integral body.*" However, the area between the plate 11 and the metal plate 10 clearly does not allow for forming a channel. Moreover, none of the prior art disclosed teaches a person how to form a channel between a metal plate and a supporting plate as shown in Loibl. On the contrary, the prior art such as Lindberg disclosing a liquid coolant clearly teach to run the channels through the largest area of a heat sink to generate the best cooling effect. Thus, a combination of Lindberg and Loibl would teach away from the limitation of the present independent claims to define a channel between the metal body plate and the integral body.

**Response to Ground #3**

Claims 1-5, 7-12, 14-16, and 18-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,940,271 issued to Atila Mertol ("Mertol") in view of Lindberg, Chia, Loibl, and U.S. Patent 5,966,291 issued to Hermann Baumel et al. ("Baumel"). Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, does not render the claimed embodiment of the invention obvious.

A premise of the rejection is that Mertol is analogous prior art. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the invention was concerned." M.P.E.P. § 2141.01(a) (*quoting In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992)). First, the endeavor of the present invention is that of "a plastic control plate of a hydraulic gearbox control device in a motor vehicle." *See* Spec 2:9-10. Mertol is not within the field of applicant's endeavor because it discloses an electronic semiconductor package.

> Electronic semiconductor packages are well-known and are configured in several different ways. Typically, an electronic semiconductor package includes: a silicon

> chip (die) containing circuit elements; a substrate, for example, a printed circuit board (PCB); first level interconnects which connect the die and the PCB, i.e., wirebonds, Tape Automated Bonds (TAB) and Controlled Collapse Chip Connection (C4 or flip chip bonds); and second level interconnects, such as external metal pins or solder balls, which connect the substrate to printed wiring circuit cards.

(Mertol, 1:11-25). Thus, the information disclosed in Mertol is not within the field of hydraulic gearbox control device in a motor vehicle. Second, the particular problem with which the invention is concerned is adequate heat dissipation of the heat produced in the control electronics system of a gearbox control device. *See* Spec 3:1-2. Mertol merely teaches,

> a stiffener with integrated heat sink attachment clips for attaching the heat sink to the package. This stiffener supports the package to reduce or prevent package warpage and prevents the attachment clip from interfering with second level interconnects. In particular, the removable clip-on heat sink is easily attached to the package top surface by snapping the heat sink into the clips on the stiffener.

(Mertol, 2:63-3:2). Mertol does not disclose or suggest liquid cooling as such is not typically used with electronic semiconductor packages. Therefore, a person skilled in the art would not consider Mertol for an arrangement using liquid cooling for a control electronics system of a gearbox control device.

Further, this rejection fails to establish a *prima facie* case of obviousness because the proposed modification of the Mertol device would render the Mertol device unsatisfactory for its intended purpose and the modified Mertol device fails to teach or suggest all of the claim limitations. Regarding the modification, it appears a premise of the rejection is that the Mertol device illustrated in Figure 14 could be modified to have its heat conduction body flushed with the surfaces of the plastic control plate. A further premise of the rejection is that Chia, Baumel et al, and Loibl show flushed component. However, Mertol teaches that the substrate 2 is a printed circuit board (PCB). (Mertol, 1:13-14).

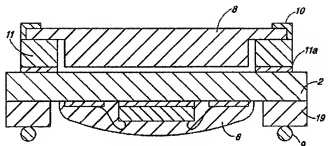


FIG. 14

If the Mertol device were modified so that the stiffener 11 were flush with the surface of the substrate 2 which interfaces with the lamination layers 19, the printed circuit board substrate 2 would have to me trimmed so as to fit within the stiffener 11. Of course, trimming the printed circuit board would render it inoperable. Such modification is not obvious.

A further premise of the rejection is that "Lindberg et al. shows, in Figs. 1-11, a control plate comprising a plurality of channels in the form of a U-shape (formed by 132, 146, and 134)." (OA of 06/01/2006, pg. 5). It appears that the rejection suggests that the Mertol device could be modified in either of two ways.

Regarding the first modification, it appears the rejections suggests to flow cooling fluid through a channel made to exist between the substrate 2 and the heat sink 8. However, this modification would place cooling fluid in direct contact with the printed circuit board. Contact with the cooling fluid would render the printed circuit board inoperable. Further, Mertol teaches that the heat sink 8 is clipped onto the frame 11 and a cavity is left between the heat sink and the substrate 22. Mertol in particular teaches to fill this cavity with thermal grease. (Mertol, 8:36-47). Thus, this arrangement clearly does not allow for the implementation of any type of channel carrying a coolant.

Regarding the second modification, it appears a premise of the rejection is that the Mertol device illustrated in Figure 14 could be modified by flipping it up-side-down and then attaching the printed circuit board substrate 2 of Mertol to the upper planar member 132 of Lindberg et al. as shown below.

FIG. 14

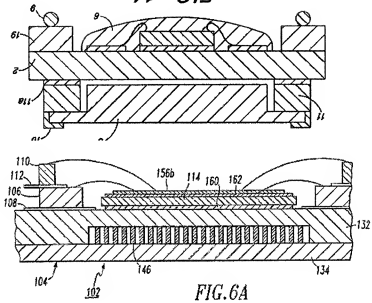


FIG.6A

However, this combination fails to provide the invention as claimed in the independent claims. In particular, as noted above, the lower planar member 134 of Lindberg et al. is made of metal, not plastic as required by the claims. Further, the lower planar member 134 of Lindberg et al. is not "a single piece body having an opening with a bottom wall having at least a partially flat area." The lower planar member 134 of Lindberg et al. is a flat piece of metal that does not have an opening as required by the independent claims. Further, because the lower planar member 134 of Lindberg et al. does not have an opening, it is impossible for the modified Mertol device to be a structure wherein the "heat conduction metal body plate top surface is flush with a top surface of the plastic plate and wherein said bottom surface rests at least partially on said bottom wall of said opening" as required by the independent claims. Further, it should be noted that the Mertol stiffener 11 is not a body having an opening with a bottom wall. Mertol, similar to Loibl, merely discloses a plate with a hole all the way through the plate, so that there is no bottom to the opening. Therefore, no bottom wall can be found in the arrangement of Mertol. The rejection did not identify which part of plate 11 forms the bottom wall.

Thus, the rejection fails to establish a *prima facie* case of obviousness because the modifications of the Mertol device would render the Mertol device unsatisfactory for its intended purpose. Further, a *prima facie* case of obviousness is not established because the Mertol device as modification fails to teach or suggest all of the claim limitations.

## SUMMARY

In summary, none of the prior art teaches the specific limitations of the present independent claims. Moreover, none of the prior art particularly allows for an implementation of the specific limitations of the present independent claims. Therefore, Applicants believe that the prior art cited do not render the independent claims obvious. Applicants respectfully submit that the dependent Claims are allowable at least to the extent of the independent Claim to which they refer, respectively. Thus, Applicants respectfully request reconsideration and allowance of the dependent Claims. Applicants reserve the right to make further arguments regarding the Examiner's rejections under 35 U.S.C. §103(a), if necessary, and do not concede that the Examiner's proposed combinations are proper.

Applicants hereby authorize the Commissioner to charge the $500.00 filing fee, and any other fees necessary, or credit any overpayment, to Deposit Account No. 50-2148 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P. (31625)

Date: October 27, 2006

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## VIII. CLAIMS APPENDIX

Claims:

1. (Previously Presented) A plastic control plate for a hydraulic gearbox control device in a motor vehicle, said plate comprising
- a single piece body having an opening with a bottom wall having at least a partially flat area;
- at least one channel running through the plastic control plate for carrying a cooling medium, and

- a heat conduction metal body plate having a top surface and a bottom surface, said plate at least partially integrated in the plastic control plate arranged directly adjacent to the channel, wherein said heat conduction metal body plate top surface is flush with a top surface of the plastic plate and wherein said bottom surface rests at least partially on said bottom wall of said opening and wherein said at least one channel is formed by said heat conduction metal body plate and said integral body.

2. (Previously Presented) The plastic control plate as claimed in Claim 1, wherein the heat conduction body is an aluminum plate.

3. (Previously Presented) The plastic control plate as claimed in Claim 1, wherein the heat conduction body is arranged directly adjacent and in contact with the at least one channel whereby a cooling medium running through the channel flows against said body.

4. (Original) The plastic control plate as claimed in Claim 1, wherein a flat area of the heat conduction body is designed as a wall area of the channel.

5. (Original) The plastic control plate as claimed in Claim 1, wherein the heat conduction body is designed in the form of a U, wherein the inner sides of the U form wall areas of the channel.

6. (Cancelled)

7. (Previously Presented) An arrangement comprising a plastic control plate and a gearbox control electronics system comprising:

- a single piece plastic control plate comprising a plurality of separate channels running through the plastic control plate for carrying a cooling medium, wherein each channel is bounded on at least one side by the plastic control plate,

- a metal heat conduction body at least partially integrated in the plastic control plate and arranged directly adjacent to a portion of the at least one channel wherein the each channel is bounded on at least one side by the metal heat conduction body, and

a substrate carrying electronic components of the gearbox control electronics system arranged directly on the upper surface of the heat conduction body.

8. (Previously Presented) The arrangement as claimed in Claim 7, wherein the gearbox control electronics system is electrically contacted via a flexible circuit board.

9. (Previously Presented) The arrangement as claimed in Claim 7, wherein the gearbox control electronics system is electrically contacted via a stamped-grid arrangement, which extends partially over the upper surface of the plastic control plate and partially over the upper surface of the heat conduction body.

10. (Previously Presented) The arrangement as claimed in Claim 7, wherein the heat conduction body is an aluminum plate.

11. (Previously Presented) The arrangement as claimed in Claim 7, wherein the heat conduction body is arranged whereby a cooling medium running through the plurality of channels flows against said body.

12. (Previously Presented) The arrangement as claimed in Claim 7, wherein a flat area of the heat conduction body is designed as a wall area of a channel.

13. (Cancelled)

14. (Original) The arrangement as claimed in Claim 7, wherein the upper surface of the plastic control plate is flush with the upper surface of the heat conduction body.

15. (Previously Presented) A gearbox control system comprising:

- a single piece plastic control plate having an opening with a bottom wall having at least a partially flat area,
- at least one channel running through the plastic control plate for carrying a cooling medium,
- a heat conduction body at least partially integrated in the plastic control plate and having a bottom surface and arranged directly adjacent to the at least one channel, wherein said bottom surface rests at least partially on said bottom wall of said opening and wherein said at least one channel is formed by said heat conduction metal body plate and said integral plastic control plate, and

- a gearbox control circuit arranged on a substrate arranged directly on an upper surface of the heat conduction body, wherein the gearbox control circuit is electrically contacted via a stamped-grid arrangement, partially extending over the upper surface of the plastic control plate and partially over the upper surface of the heat conduction body.

16. (Previously Presented) The gearbox control system as in Claim 15, wherein the gearbox control circuit is electrically contacted via a flexible circuit board.

17. (Cancelled)

18. (Previously Presented) The gearbox control system as in Claim 15, wherein the heat conduction body is an aluminum plate.

19. (Previously Presented) The gearbox control system as in Claim 15, wherein the heat conduction body is arranged whereby a cooling medium running through the at least one channel flows against said body.

20. (Original) The gearbox control system as in Claim 15, wherein a flat area of the heat conduction body is designed as a wall area of the channel.

21. (Original) The gearbox control system as in Claim 15, wherein the heat conduction body is designed in the form of a U, wherein the inner sides of the U form wall areas of the channel.

22. (Original) The gearbox control system as in Claim 15, wherein the upper surface of the plastic control plate is flush with the upper surface of the heat conduction body.

**EVIDENCE APPENDIX**

**NONE**

**RELATED PROCEEDINGS APPENDIX**

**NONE**